

# HERO

## Historical Evaluation & Research Organization

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Report Number 129 -

COMBAT HISTORY ANALYSIS STUDY EFFORT (CHASE)

DATA ENHANCEMENT STUDY (CDES)

Vol V: Tasks 6, 7, 8, and 9

Final Report  
31 January 1986

Prepared for the  
US Army Concepts Analysis Agency  
Bethesda, Maryland

Contract No. MDA903-85-C-0252

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Vol. V: Tasks 6, 7, 8, and 9

Final Report

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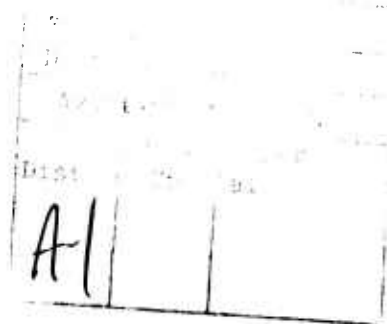
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## Task 6: Clarification of the Defender Posture Description

The purpose of this task is to identify the engagements in which the defender's posture consists of two of the five basic posture levels used in the data base (i.e., fortified, prepared, hasty, delay, and withdrawal) and to indicate whether the posture levels are a combination or an average. For a definition of posture and its five basic levels, see pages 7-9 of Volume II of the original data base.

1. A combination defensive posture is one in which two fully developed posture levels occur in two or more sectors across the front of a defensive position or in two or more lines of defense through the depth of a defensive position. A combination defensive posture may also occur, frequently in engagements of prolonged duration, when two fully developed posture levels occur at different times during the course of the engagement. An "x" under column heading 1 indicates that the posture is a combination, and an "x" under the column heading Front, Width, or Time shows whether the combination posture is over the front or throughout the depth of a defensive position or over time.

2. An average defensive posture is one which has features of two types of posture but does not contain all the characteristics inherent to a single posture type. An "x" under column heading 2 indicates that the posture is an average. It has been determined that in average posture descriptors, the two levels of posture are generally uniformly mixed. Therefore, average posture descriptors are not enhanced by entries under the column headings for across the front, through depth, or over time.

Review of posture descriptors for this task has resulted in the reevaluation of postures for six engagements. They are:

White Mountain, #2, changes from PD to H/PD.

Dunbar, #27, changes from H/PD to HD.

Solferino, #168, changes from H/PD to HD.

Sadowa (Koenigraetz), #169, changes from H/PD to HD.

Custoza II, #170, changes from H/PD to HD.

Adabiya, #582, changes from H/PD to WDL.

Users of the data base should make the above changes in Table 2 of the original data base.

Explanations of the column headings for the Task 6 tables are as follow.

POST D1/POST D2 are the postures entered in Table 2 of the original data base.

Descriptor indicates either a combination or average of two posture levels, column heading 1 being the former and column heading 2 the latter as described above.

Defensive Posture Changes are the types of changes in a combination posture descriptor, either Front, Depth, or Time, as described above.

# DEFENDER POSTURE CLARIFICATION

White Mountain, #2

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| H/PD                | x          |   | x                         |       |      |

Newbury II, #24

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

Worcester, #28

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

St. Antoine, #29

|      |   |  |   |   |  |
|------|---|--|---|---|--|
| H/PD | x |  | x | x |  |
|------|---|--|---|---|--|

Vienna, #32

|      |   |  |   |   |  |
|------|---|--|---|---|--|
| H/PD | x |  | x | x |  |
|------|---|--|---|---|--|

Enzheim, #36

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

# DEFENDER POSTURE CLARIFICATION

Aughrim, #44

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| H/PD                | x          |   | x                         | x     |      |

Steenkerke, #45

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

Neerwinden (Landen), #46

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

Ramillies, #51

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

Fontenoy, #58

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

Bergen, #74

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

# DEFENDER POSTURE CLARIFICATION

## Bunker Hill, #82

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| H/PD                | x          |   | x                         |       |      |

## Eutaw Springs, #95

|      |   |  |  |   |  |
|------|---|--|--|---|--|
| H/PD | x |  |  | x |  |
|------|---|--|--|---|--|

## Arcola, #106

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

## Rivoli, #107

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

## Pyramids, #108

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

## Zurich, #111

|      |   |  |   |   |  |
|------|---|--|---|---|--|
| P/FD | x |  | x | x |  |
|------|---|--|---|---|--|



# DEFENDER POSTURE CLARIFICATION

Zurich III, #113

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| P/FD                | x          |   | x                         | x     |      |

Bussaco, #129

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

Borodino, #134

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

Bautzen, #136

|      |   |  |   |   |   |
|------|---|--|---|---|---|
| H/PD | x |  | x | x | x |
|------|---|--|---|---|---|

Dresden, #137

|      |   |  |   |   |  |
|------|---|--|---|---|--|
| H/PD | x |  | x | x |  |
|------|---|--|---|---|--|

La Rothiere, #140

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

# DEFENDER POSTURE CLARIFICATION

Waterloo, #145

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| H/PD                | x          |   | x                         |       |      |

The Alma, #165

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

Front Royal, #179

|       |   |  |  |  |   |
|-------|---|--|--|--|---|
| H/WDL | x |  |  |  | x |
|-------|---|--|--|--|---|

Chattanooga, #201

|      |   |  |  |   |   |
|------|---|--|--|---|---|
| P/FD | x |  |  | x | x |
|------|---|--|--|---|---|

Spotsylvania, #203

|      |   |  |   |  |   |
|------|---|--|---|--|---|
| H/PD | x |  | x |  | x |
|------|---|--|---|--|---|

Peachtree Creek, #207

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

# DEFENDER POSTURE CLARIFICATION

Opequon Creek (Third Winchester), #211

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| H/PD                | x          |   | x                         | x     | x    |

Dinwiddie Court House & White Oak Road, #216

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

Spichern, #222

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

Majuba Hill, #232

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

Telissu, #243

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

Liaoyang, #244

|      |   |  |  |   |   |
|------|---|--|--|---|---|
| P/FD | x |  |  | x | x |
|------|---|--|--|---|---|

# DEFENDER POSTURE CLARIFICATION

The Sha-Ho, #245

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| H/PD                | x          |   |                           | x     |      |

Mukden, #247

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| P/FD | x |  | x |  |  |
|------|---|--|---|--|--|

Lule' Burgas, #249

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

Prelip, #250

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| P/FD |  | x |  |  |  |
|------|--|---|--|--|--|

Monastir, #251

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

The Nieman, #254

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

# DEFENDER POSTURE CLARIFICATION

Hill 52/Shachaofeng, #257

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| H/PD                |            | x |                           |       |      |

Alsace-Lorraine I, #262

|        |   |  |  |  |   |
|--------|---|--|--|--|---|
| Del/FD | x |  |  |  | x |
|--------|---|--|--|--|---|

Alsace-Lorraine II, #263

|      |   |  |  |  |   |
|------|---|--|--|--|---|
| H/FD | x |  |  |  | x |
|------|---|--|--|--|---|

Le Cateau, #267

|        |   |  |  |  |   |
|--------|---|--|--|--|---|
| HD/WDL | x |  |  |  | x |
|--------|---|--|--|--|---|

The Aisne, #277

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

Ctesiphon, #303

|      |   |  |   |   |  |
|------|---|--|---|---|--|
| F/PD | x |  | x | x |  |
|------|---|--|---|---|--|

# DEFENDER POSTURE CLARIFICATION

Asiago, #313

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| H/PD                | x          |   |                           | x     |      |

Second Somme, Phase II (Somme-Montdidier), #331

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| F/PD |  | x |  |  |  |
|------|--|---|--|--|--|

Belleau Wood, #336

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

Aisne-Marne II, #359

|        |   |  |  |  |   |
|--------|---|--|--|--|---|
| FD/Del | x |  |  |  | x |
|--------|---|--|--|--|---|

St. Mihiel, #364

|        |   |  |   |  |   |
|--------|---|--|---|--|---|
| FD/Del | x |  | x |  | x |
|--------|---|--|---|--|---|

Lahayville-Bois de Lamarche, #365

|        |  |   |  |  |  |
|--------|--|---|--|--|--|
| FD/Del |  | x |  |  |  |
|--------|--|---|--|--|--|

# DEFENDER POSTURE CLARIFICATION

Meuse-Argonne, Phase III, #381

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| PD/Del              |            | x |                           |       |      |

Remilly-Aillicourt, #382

|        |  |   |  |  |  |
|--------|--|---|--|--|--|
| PD/Del |  | x |  |  |  |
|--------|--|---|--|--|--|

Hill 252-Pont Maugis, #383

|        |  |   |  |  |  |
|--------|--|---|--|--|--|
| PD/Del |  | x |  |  |  |
|--------|--|---|--|--|--|

Alam Halfa, #386

|      |   |  |   |   |  |
|------|---|--|---|---|--|
| P/FD | x |  | x | x |  |
|------|---|--|---|---|--|

Amphitheater, #394

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

Port of Salerno, #395

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

# DEFENDER POSTURE CLARIFICATION

Sele-Calore Corridor, #396

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| H/PD                |            | x |                           |       |      |

Monte Camino II, #418

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

Factory Counterattack, #430

|       |  |   |  |  |  |
|-------|--|---|--|--|--|
| FD/PD |  | x |  |  |  |
|-------|--|---|--|--|--|

Bowling Alley, #431

|       |   |  |  |   |  |
|-------|---|--|--|---|--|
| FD/PD | x |  |  | x |  |
|-------|---|--|--|---|--|

Moletta River II, #432

|       |   |  |  |   |  |
|-------|---|--|--|---|--|
| FD/PD | x |  |  | x |  |
|-------|---|--|--|---|--|

Valmontone, #455

|      |   |  |   |   |  |
|------|---|--|---|---|--|
| H/PD | x |  | x | x |  |
|------|---|--|---|---|--|



# DEFENDER POSTURE CLARIFICATION

Seille-Nied, #470

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| FD/Delay            | x          |   |                           | x     | x    |

Morhange, #472

|          |   |  |  |   |   |
|----------|---|--|--|---|---|
| PD/Delay | x |  |  | x | x |
|----------|---|--|--|---|---|

Morhange-Faulquemont, #473

|          |   |  |  |   |   |
|----------|---|--|--|---|---|
| FD/Delay | x |  |  | x | x |
|----------|---|--|--|---|---|

Bourgaltroff, #474

|          |   |  |  |   |   |
|----------|---|--|--|---|---|
| PD/Delay | x |  |  | x | x |
|----------|---|--|--|---|---|

Sarre-St. Avoird, #475

|          |   |  |  |   |   |
|----------|---|--|--|---|---|
| PD/Delay | x |  |  | x | x |
|----------|---|--|--|---|---|

Burbach-Durstel, #478

|          |   |  |  |   |   |
|----------|---|--|--|---|---|
| PD/Delay | x |  |  | x | x |
|----------|---|--|--|---|---|

# DEFENDER POSTURE CLARIFICATION

Durstel-Faerbersviller, #479

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| PD/Delay            | x          |   |                           | x     | x    |

St. Vith, #484

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| H/PD | x |  | x |  |  |
|------|---|--|---|--|--|

Bastogne, #485

|        |   |  |  |   |   |
|--------|---|--|--|---|---|
| HD/Del | x |  |  | x | x |
|--------|---|--|--|---|---|

Jitra, #487

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

The Defense of Moscow, #489

|      |   |  |   |   |   |
|------|---|--|---|---|---|
| P/FD | x |  | x | x | x |
|------|---|--|---|---|---|

Soviet Counteroffensive at Moscow, #490

|      |   |  |   |   |   |
|------|---|--|---|---|---|
| H/PD | x |  | x | x | x |
|------|---|--|---|---|---|

# DEFENDER POSTURE CLARIFICATION

## The Pogoreloye Gorodishche Offensive, #491

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| P/FD                | x          |   |                           | x     | x    |

## The Oboyan-Kursk Axis, Phase II, #495

|      |   |  |  |   |   |
|------|---|--|--|---|---|
| P/FD | x |  |  | x | x |
|------|---|--|--|---|---|

## The Oboyan-Kursk Axis, Phase III, #496

|      |   |  |  |   |   |
|------|---|--|--|---|---|
| P/FD | x |  |  | x | x |
|------|---|--|--|---|---|

## Kursk Counteroffensive (Southern Sector), #498

|      |   |  |  |   |   |
|------|---|--|--|---|---|
| P/FD | x |  |  | x | x |
|------|---|--|--|---|---|

## Korsun-Shechenkovskiy, #501

|      |   |  |   |   |   |
|------|---|--|---|---|---|
| P/FD | x |  | x | x | x |
|------|---|--|---|---|---|

## Brody, Phase I, #506

|      |   |  |  |   |  |
|------|---|--|--|---|--|
| P/FD | x |  |  | x |  |
|------|---|--|--|---|--|

# DEFENDER POSTURE CLARIFICATION

## Shuri Envelopment, Phase II, #532

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| FD/Del              | x          |   | x                         |       |      |

## Shuri Envelopment, Phase III, #533

|        |   |  |   |  |  |
|--------|---|--|---|--|--|
| FD/Del | x |  | x |  |  |
|--------|---|--|---|--|--|

## Advance to the Yuza-Dake/Yaeju-Dake Escarpment, #546

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| P/FD |  | x |  |  |  |
|------|--|---|--|--|--|

## Initial Attack on the Yuza-Dake/Yaeju-Dake Escarpment, #547

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| P/FD |  | x |  |  |  |
|------|--|---|--|--|--|

## Capture of the Yuza-Dake/Yaeju-Dake Escarpment, #548

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| P/FD |  | x |  |  |  |
|------|--|---|--|--|--|

## Tilfit-Zababida, #552

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

# DEFENDER POSTURE CLARIFICATION

Nablus, #553

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| H/PD                | x          |   |                           |       | x    |

Rafah, #554

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| P/FD |  | x |  |  |  |
|------|--|---|--|--|--|

Bir Lahfan, #555

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

El Arish, #557

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| P/FD |  | x |  |  |  |
|------|--|---|--|--|--|

Jebel Libni, #558

|        |   |  |   |  |   |
|--------|---|--|---|--|---|
| PD/Del | x |  | x |  | x |
|--------|---|--|---|--|---|

Gaza Strip, #559

|      |   |  |   |   |  |
|------|---|--|---|---|--|
| P/FD | x |  | x | x |  |
|------|---|--|---|---|--|

# DEFENDER POSTURE CLARIFICATION

Bir Hassna-Bir Thamada, #560

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| PD/Del              | x          |   | x                         |       | x    |

Suez Canal Assault-North, #569

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| P/FD | x |  | x |  |  |
|------|---|--|---|--|--|

Suez Canal Assault-South, #570

|      |   |  |   |  |  |
|------|---|--|---|--|--|
| P/FD | x |  | x |  |  |
|------|---|--|---|--|--|

Second Army Buildup, #571

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

Third Army Buildup, #572

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

Egyptian Offensive-North, #574

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

# DEFENDER POSTURE CLARIFICATION

## Egyptian Offensive-South, #575

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| H/PD                |            | x |                           |       |      |

## Deversoir (Chinese Farm I), #576

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

## Deversoir (Chinese Farm II), #577

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

## Deversoir West, #578

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

## Ismailia, #579

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

## Jebel Geneifa, #580

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| H/PD |  | x |  |  |  |
|------|--|---|--|--|--|

# DEFENDER POSTURE CLARIFICATION

Suez, #584

| POST D1/<br>POST D2 | Descriptor |   | Defensive Posture Changes |       |      |
|---------------------|------------|---|---------------------------|-------|------|
|                     | 1          | 2 | Front                     | Depth | Time |
| H/PD                |            | x |                           |       |      |

Ahmadiyeh, #586

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| F/PD |  | x |  |  |  |
|------|--|---|--|--|--|

Rafid, #587

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| F/PD |  | x |  |  |  |
|------|--|---|--|--|--|

Mount Hermonit, #592

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| F/PD |  | x |  |  |  |
|------|--|---|--|--|--|

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
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|--|--|--|--|--|--|



### Task 7: Identification of the Quality of Strength and Loss Data

The purpose of this task is to provide values that indicate the adjudged relative levels of reliability for strength and casualty data. These values, called data reliability estimates, are intended to be compatible with use in statistical analyses.

The data reliability estimates shown on the Task 7 tables represent the maximum ranges of possible values for strength or casualty data expressed in whole numbers as percentages of the strength or casualty data entered in the "Strength" or "Casualties" columns of the Task 2 tables in Volume III of this study. For example, the data reliability estimate +25/-15 means that the range of possible values for a data entry could possibly be as high as 25% greater than, or as low as 15% less than, the reported strength or casualty value. In a case where the reported strength or casualty value is 100 and the data reliability estimate is +25/-15 (i.e., 25% greater than and 15% less than 100), the range of possible values is from 125 to 85. Or, if the reported strength or casualty value is 50 and the data reliability estimate +25/-15 (i.e., 25% greater than and 15% less than 50), the range is from 63 to 43.

In general, data reliability estimates are calculated in two ways. The first is used most often in cases when only one strength or casualty data value is available for use in the data base. In these cases, the data reliability estimate is formulated strictly on the analyst's judgment. In making an estimate, the analyst considers such factors as the methodology used for the derivation of data, the quality of the source of the data, or possible bias on the part of the author of a data source.

If more than one value is available, then the most reliable values with the greatest differences from the data base number are used to calculate the data reliability estimates. The differences between the data base number and the values of greatest departure from it, computed as percentages of the data base value, are the data reliability estimates. For example, Confederate (defender) casualties at the Battle of Brandy Station (#198) are given as 500 in the data base (Dupuy and Dupuy, Encyclopedia, p. 885). B&L, III:263, gives 485 as the Confederate casualties and Freeman, III:13, reports 523. The differences between these values and the data base value are 15 and 23. The numbers 15 and 23 are computed as percentages of 500 to give data reliability estimates of -3.0 and +4.6. The equations used are:

15/500 as  $X/100$ , so  $X = 3.0$ , where  
 $X = \text{"Minimum" data reliability estimate.}$

23/500 as  $Y/100$ , so  $Y = 4.6$ , where  
 $Y = \text{"Maximum" data reliability estimate.}$

The data reliability estimate for defender casualties at Brandy Station is +5/-3 (4.6 being rounded off to the nearest whole number), i.e., no more than 523 (or 525) and no less than 485 with 500 as the value entered in the data base.

The defender strength in the same battle is reported in the data base as 10,000 (Dupuy and Dupuy, Encyclopedia, p. 885). B&L, III:261, reports 10,292 for defender strength. The number 292 is computed as a percentage of 10,000 to give a data reliability estimate of +2.92.

292/10,000 as  $Z/100$ , so  $Z = 2.92$ , where  
 $Z = \text{"Maximum" data reliability estimate.}$

In this example, the data base value is considered the minimum possible value, so the data reliability estimate for defender strength at Brandy Station is shown as +3 (2.92 being rounded off to the nearest whole number), i.e., no more than 10,292 (or 10,300) and no less than 10,000, the value entered in the data base.

Date reliability estimates are entered for strength and casualty data under column headings Strength and Casualties on the Task 7 tables. The letters A and D in the left-hand column of the tables refer to attacker and defender.

Nieuport, #1

| Strength |        | Casualties |
|----------|--------|------------|
| A:       | -5     | -25        |
| D:       | +33/-3 | +20        |

White Mountain, #2

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -50 | +10/-10    |
| D:       | +29 | +20        |

Wimpfen, #3

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -10 | -90        |
| D:       | -25 | +3         |

Dessau Bridge, #4

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +29 | +33        |
| D:       | +25 | +20        |

Lutter, #5

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +6  | +25        |
| D:       | -25 | +43/-14    |

Breitenfeld I, #6

| Strength |    | Casualties |
|----------|----|------------|
| A:       | +6 | -12        |
| D:       | -5 | -18        |

# DATA RELIABILITY ESTIMATES

The Lech, #7

|    | Strength | Casualties |
|----|----------|------------|
| A: | +36/-24  | +100       |
| D: | -35      | +33        |

Alte Veste, #8

|    | Strength | Casualties |
|----|----------|------------|
| A: | +9       | -50        |
| D: | -25      | -50        |

Luetzen, #9

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +100       |
| D: | +15      | +100       |

Noerdlingen I, #10

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +75        |
| D: | -6       | +10/-10    |

Wittstock, #11

|    | Strength | Casualties |
|----|----------|------------|
| A: | -26      | -53        |
| D: | -30      | -72        |

Breitenfeld II, #12

|    | Strength | Casualties |
|----|----------|------------|
| A: | -20      | -20        |
| D: | -13      | -33        |

# DATA RELIABILITY ESTIMATES

Rocroi, #13

|    | Strength | Casualties |
|----|----------|------------|
| A: | -13      | -100       |
| D: | -4       | -16        |

Tuttlingen, #14

|    | Strength | Casualties |
|----|----------|------------|
| A: | -9       | -50        |
| D: | +33      | +57        |

Freiburg, #15

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5       | -25        |
| D: | +31/-6   | +125       |

Jankau, #16

|    | Strength | Casualties |
|----|----------|------------|
| A: | +7       | -6         |
| D: | +7       | +100       |

Mergentheim, #17

|    | Strength | Casualties |
|----|----------|------------|
| A: | +30      | -57        |
| D: | -27      | +57/-57    |

Allerheim (Noerdlingen II), #18

|    | Strength | Casualties |
|----|----------|------------|
| A: | +56/-6   | -33        |
| D: | +25/-6   | -17        |

# DATA RELIABILITY ESTIMATES

Lens, #19

|    | Strength | Casualties |
|----|----------|------------|
| A: | +14      | -63        |
| D: | +10/-10  | +20/-20    |

Edgehill, #20

|    | Strength | Casualties |
|----|----------|------------|
| A: | +37-6    | +60        |
| D: | +2/-13   | -60        |

Marston Moor, #21

|    | Strength | Casualties |
|----|----------|------------|
| A: | -26      | +10/-10    |
| D: | +3       | -6         |

Tippermuir, #22

|    | Strength | Casualties |
|----|----------|------------|
| A: | +97-36   | -33        |
| D: | +23      | +200       |

Kilsyth, #23

|    | Strength | Casualties |
|----|----------|------------|
| A: | -8       | +200       |
| D: | -10      | -2         |

Newbury II, #24

|    | Strength | Casualties |
|----|----------|------------|
| A: | -14      | +50        |
| D: | -10      | +50        |

# DATA RELIABILITY ESTIMATES

Naseby, #25

|    | Strength | Casualties |
|----|----------|------------|
| A: | +13      | +17        |
| D: | +3       | +10/-10    |

Preston, #26

|    | Strength | Casualties |
|----|----------|------------|
| A: | -6       | +100       |
| D: | +14/-20  | +60        |

Dunbar, #27

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +200/-33   |
| D: | +18/-9   | -8         |

Worcester, #28

|    | Strength | Casualties |
|----|----------|------------|
| A: | +7       | -300       |
| D: | -10      | -10        |

St. Antoine, #29

|    | Strength | Casualties |
|----|----------|------------|
| A: | -10      | -50        |
| D: | +10/-10  | +5/-5      |

The Dunes, #30

|    | Strength | Casualties |
|----|----------|------------|
| A: | -13      | -50        |
| D: | +17      | -29        |



# DATA RELIABILITY ESTIMATES

The Raab, #31

|    | Strength | Casualties |
|----|----------|------------|
| A: | -17      | +20        |
| D: | -17      | +10        |

Vienna, #32

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | -60        |
| D: | +29      | +25/-50    |

Chocim II, #33

|    | Strength | Casualties |
|----|----------|------------|
| A: | -20      | +100       |
| D: | -63      | +25/-25    |

Sinsheim, #34

|    | Strength | Casualties |
|----|----------|------------|
| A: | -11      | -27        |
| D: | +20      | +4/-20     |

Senef, #35

|    | Strength | Casualties |
|----|----------|------------|
| A: | -10      | -30        |
| D: | -7       | +43        |

Enzheim, #36

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | -29        |
| D: | +20      | +60        |

# DATA RELIABILITY ESTIMATES

Turckheim, #37

|    | Strength | Casualties |
|----|----------|------------|
| A: | -9       | +9         |
| D: | +67      | -6         |

Fehrbellin, #38

|    | Strength | Casualties |
|----|----------|------------|
| A: | -7       | +10/-10    |
| D: | +72      | -20        |

Sedgemoor #38

|    | Strength | Casualties |
|----|----------|------------|
| A: | -8       | -13        |
| D: | -17      | +33        |

Killiecrankie, #40

|    | Strength | Casualties |
|----|----------|------------|
| A: | +114     | -33        |
| D: | +17      | +84        |

Walcourt, #41

|    | Strength | Casualties |
|----|----------|------------|
| A: | -8       | -70        |
| D: | -14      | +131/-28   |

Fleurus, #42

|    | Strength | Casualties |
|----|----------|------------|
| A: | -20      | +20/-10    |
| D: | -21      | -37        |

# DATA RELIABILITY ESTIMATES

The Boyne, #43

| Strength |    | Casualties |
|----------|----|------------|
| A:       | +3 | +100       |
| D:       | +2 | +7         |

Aughrim, #44

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -5  | +11/-19    |
| D:       | -44 | +36        |

Steenkerke, #45

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +11 | +7         |
| D:       | +5  | -1         |

Neerwinden (Landen), #46

| Strength |    | Casualties |
|----------|----|------------|
| A:       | -5 | -11        |
| D:       | -5 | +29/-25    |

Marsaglia, #47

| Strength |    | Casualties |
|----------|----|------------|
| A:       | -5 | -33        |
| D:       | -6 | -50        |

Zenta, #48

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -10 | -5         |
| D:       | -20 | -33        |

# DATA RELIABILITY ESTIMATES

Poltava, #49

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +21/-7  | +25        |
| D:       | +33/-33 | +280       |

Blenheim, #50

| Strength |        | Casualties |
|----------|--------|------------|
| A:       | +12/-4 | +1/-15     |
| D:       | +13/-7 | -12        |

Ramillies, #51

| Strength |    | Casualties |
|----------|----|------------|
| A:       | -3 | +38        |
| D:       | +3 | -32        |

Oudenarde, #52

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +13 | +50/-24    |
| D:       | -6  | +33/-7     |

Malplaquet, #53

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -17 | +4/-15     |
| D:       | +19 | +17        |

Peterwardein, #54

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -5  | -33        |
| D:       | +67 | +233       |

# DATA RELIABILITY ESTIMATES

Mollwitz, #55

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -13 | -1         |
| D:       | -2  | -5         |

Chotusitz, #56

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -3  | -1         |
| D:       | +14 | +4         |

Dettingen, #57

| Strength |      | Casualties |
|----------|------|------------|
| A:       | +6   | -4         |
| D:       | +123 | +20        |

Fontenoy, #58

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +6  | -42        |
| D:       | +16 | +14        |

Hohenfriedberg, #59

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +40 | +1         |
| D:       | +14 | +15        |

Sohr, #60

| Strength |    | Casualties |
|----------|----|------------|
| A:       | -3 | +3         |
| D:       | -7 | +1         |

# DATA RELIABILITY ESTIMATES

Kesselsdorf, #61

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +13 | +2         |
| D:       | +12 | +58        |

Prestonpens, #62

| Strength |    | Casualties |
|----------|----|------------|
| A:       | +4 | +5         |
| D:       | +5 | +6         |

Culloden, #63

| Strength |        | Casualties |
|----------|--------|------------|
| A:       | +11/-7 | -19        |
| D:       | +11    | -3         |

Lobositz, #64

| Strength |    | Casualties |
|----------|----|------------|
| A:       | +3 | +17        |
| D:       | -4 | +4         |

Prague, #65

| Strength |    | Casualties |
|----------|----|------------|
| A:       | -2 | +1         |
| D:       | -2 | +2         |

Plassey, #66

| Strength |       | Casualties |
|----------|-------|------------|
| A:       | +6    | +20        |
| D:       | +1/-3 | +14        |

# DATA RELIABILITY ESTIMATES

Kolin, #67

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +3  | +2         |
| D:       | +23 | +56        |

Hastenbeck, #68

| Strength |       | Casualties |
|----------|-------|------------|
| A:       | -5/-5 | -7         |
| D:       | -5/-5 | -6         |

Rosbach, #69

| Strength |    | Casualties |
|----------|----|------------|
| A:       | -2 | -17        |
| D:       | -9 | +9         |

Leuthen, #70

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +6  | -47        |
| D:       | +23 | +23        |

Crefeld, #71

| Strength |    | Casualties |
|----------|----|------------|
| A:       | +3 | -14        |
| D:       | +6 | +39        |

Zorndorf, #72

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -8  | -2         |
| D:       | +20 | +14        |

# DATA RELIABILITY ESTIMATES

Hochkirch, #73

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -19 | +2         |
| D:       | +35 | +13        |

Bergen, #74

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +13 | -40        |
| D:       | +20 | -20        |

Minden, #75

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -16 | +5         |
| D:       | -13 | +1/-1      |

Kunersdorf, #76

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -6  | +8         |
| D:       | +18 | +5         |

Plains of Abraham (Quebec), #77

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +11/-11 | -20        |
| D:       | +1      | -3         |

Maxen, #78

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +11 | -70        |
| D:       | -11 | +30        |



# DATA RELIABILITY ESTIMATES

Warburg, #79

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +26 | -5         |
| D:       | +26 | +35        |

Liegnitz, #80

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -20 | +42        |
| D:       | -7  | -6         |

Torgau, #81

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +14 | +19        |
| D:       | +25 | -2         |

Bunker Hill, #82

| Strength |    | Casualties |
|----------|----|------------|
| A:       | -9 | +9         |
| D:       | -6 | -8         |

Quebec, #83

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | -27     | +13/-2     |
| D:       | +10/-10 | +5/-5      |

White Plains, #84

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -10 | -23        |
| D:       | +12 | +67        |

# DATA RELIABILITY ESTIMATES

Trenton, #85

| Strength |       | Casualties |
|----------|-------|------------|
| A:       | +5/-5 | -50        |
| D:       | -21   | -6         |

Princeton, #86

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -6  | +9         |
| D:       | -42 | +27        |

Freeman's Farm, #87

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | -14     | +8         |
| D:       | +20/-20 | +5/-5      |

Germantown, #88

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -2  | -2         |
| D:       | -11 | -3         |

Bemis Heights, #89

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | -20     | +10/-10    |
| D:       | +10/-10 | +15        |

Monmouth Court House, #90

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +10/-10 | +5/-5      |
| D:       | +27     | +5/-5      |

# DATA RELIABILITY ESTIMATES

Camden, #91

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +7  | +5/-5      |
| D:       | +31 | +42        |

Cowpens, #92

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -10 | -13        |
| D:       | -32 | +5/-5      |

Guilford Court House, #93

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -16 | +22        |
| D:       | -3  | +20        |

Hobkirk's Hill, #94

| Strength |       | Casualties |
|----------|-------|------------|
| A:       | +5/-5 | +5/-5      |
| D:       | -10   | +5/-5      |

Eutaw Springs, #95

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +11 | -6         |
| D:       | -10 | +25/-24    |

Valmy, #96

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +3  | -49        |
| D:       | +16 | -25        |

# DATA RELIABILITY ESTIMATES

Jemappes, #97

|    | Strength | Casualties |
|----|----------|------------|
| A: | +13      | -33        |
| D: | +8       | -40        |

Neerwinden, #98

|    | Strength | Casualties |
|----|----------|------------|
| A: | -9       | -10        |
| D: | -7       | +13        |

Hondschoote, #99

|    | Strength | Casualties |
|----|----------|------------|
| A: | -29      | -33        |
| D: | +23      | -30        |

Wattignies, #100

|    | Strength | Casualties |
|----|----------|------------|
| A: | +16      | +78        |
| D: | +13      | +67        |

Fleurus, #101

|    | Strength | Casualties |
|----|----------|------------|
| A: | +13      | +20/-43    |
| D: | +11      | -75        |

Lodi, #102

|    | Strength | Casualties |
|----|----------|------------|
| A: | +18      | +122       |
| D: | +5/-5    | +10        |

# DATA RELIABILITY ESTIMATES

Castiglione, #103

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +16 | -26        |
| D:       | -5  | +5/-5      |

Neresheim #104

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +20 | -47        |
| D:       | +11 | -20        |

Wuerzburg, #105

| Strength |       | Casualties |
|----------|-------|------------|
| A:       | +5/-5 | +5/-5      |
| D:       | +5/-5 | +5/-5      |

Arcola, #106

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +4  | +3         |
| D:       | -13 | -11        |

Rivoli, #107

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -19 | -26        |
| D:       | -2  | -56        |

Pyramids, #108

| Strength |      | Casualties |
|----------|------|------------|
| A:       | -20  | -53        |
| D:       | +186 | -60        |

# DATA RELIABILITY ESTIMATES

Stockach I, #109

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-8    | +11/-19    |
| D: | +45/-8   | -33        |

Mount Tabor, #110

|    | Strength | Casualties |
|----|----------|------------|
| A: | -26      | +10/-10    |
| D: | -11      | +66        |

Zurich I, #111

|    | Strength | Casualties |
|----|----------|------------|
| A: | +38      | +1/-6      |
| D: | +80      | +8         |

Novi, #112

|    | Strength | Casualties |
|----|----------|------------|
| A: | +30      | -3         |
| D: | +3       | -39        |

Zurich III, #113

|    | Strength | Casualties |
|----|----------|------------|
| A: | -4       | +5/-5      |
| D: | +30      | +5/-5      |

Moeskirch, #114

|    | Strength | Casualties |
|----|----------|------------|
| A: | -13      | -25        |
| D: | +50/-20  | -20        |

# DATA RELIABILITY ESTIMATES

Marengo, #115

|    | Strength | Casualties |
|----|----------|------------|
| A: | -13      | +27        |
| D: | +10/-3   | +14/-20    |

Hohenlinden, #116

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10      | -23        |
| D: | +10      | +100       |

Austerlitz, #117

|    | Strength | Casualties |
|----|----------|------------|
| A: | +4/-3    | -7         |
| D: | +2/-11   | +29/-3     |

Jena, #118

|    | Strength | Casualties |
|----|----------|------------|
| A: | +4/-44   | +50        |
| D: | +2/-9    | -17        |

Auerstadt, #119

|    | Strength | Casualties |
|----|----------|------------|
| A: | -22      | -35        |
| D: | +1/-4    | +100       |

Eylau, #120

|    | Strength | Casualties |
|----|----------|------------|
| A: | -23      | +35/-19    |
| D: | +4/-19   | -52        |

# DATA RELIABILITY ESTIMATES

Friedland, #121

|    | Strength | Casualties |
|----|----------|------------|
| A: | +9       | +51        |
| D: | +2/-23   | -60        |

Vimeiro, #122

|    | Strength | Casualties |
|----|----------|------------|
| A: | +7/-1    | +39        |
| D: | -18      | -4         |

Corunna, #123

|    | Strength | Casualties |
|----|----------|------------|
| A: | +2/-26   | +88/-44    |
| D: | +14      | -20        |

Eckmuehl, #124

|    | Strength | Casualties |
|----|----------|------------|
| A: | -53      | +42/-50    |
| D: | +21/-9   | -50        |

Aspern-Essling, #125

|    | Strength | Casualties |
|----|----------|------------|
| A: | -24      | +2         |
| D: | +27      | +111/-5    |

The Raab, #126

|    | Strength | Casualties |
|----|----------|------------|
| A: | -31      | -25        |
| D: | -32      | +61/-19    |



# DATA RELIABILITY ESTIMATES

Wagram, #127

|    | Strength | Casualties |
|----|----------|------------|
| A: | +35      | +9/-12     |
| D: | +5/-8    | -43        |

Talavera, #128

|    | Strength | Casualties |
|----|----------|------------|
| A: | +22/-35  | +20        |
| D: | -34      | +21/-19    |

Bussaco, #129

|    | Strength | Casualties |
|----|----------|------------|
| A: | +1/-12   | +2/-1      |
| D: | -38      | -8         |

Fuentes de Onoro, #130

|    | Strength | Casualties |
|----|----------|------------|
| A: | -38      | +11/-19    |
| D: | +2/-20   | -17        |

Albuera, #131

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-22   | +5/-5      |
| D: | +60      | -20        |

Salamanca, #132

|    | Strength | Casualties |
|----|----------|------------|
| A: | +6/-13   | -13        |
| D: | +19      | +31/-8     |

# DATA RELIABILITY ESTIMATES

Vittoria, #133

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +14/-11 | +17/-3     |
| D:       | -26     | +14/-27    |

Borodino, #134

| Strength |        | Casualties |
|----------|--------|------------|
| A:       | +11/-5 | +14        |
| D:       | +2/-25 | +30        |

Luetzen, #135

| Strength |        | Casualties |
|----------|--------|------------|
| A:       | -26    | -44        |
| D:       | +20/-3 | -41        |

Bautzen, #136

| Strength |        | Casualties |
|----------|--------|------------|
| A:       | +1/-16 | -20        |
| D:       | +3/-1  | -45        |

Dresden, #137

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +18 | -5         |
| D:       | -20 | +5/-5      |

Leipzig, #138

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -17 | +23/-18    |
| D:       | -13 | +22        |

# DATA RELIABILITY ESTIMATES

Hanau, #139

|    | Strength | Casualties |
|----|----------|------------|
| A: | -22      | +50        |
| D: | +9       | -66        |

La Rothiere, #140

|    | Strength | Casualties |
|----|----------|------------|
| A: | +12      | -22        |
| D: | +3       | +83        |

Laon, #141

|    | Strength | Casualties |
|----|----------|------------|
| A: | +9/-37   | +100       |
| D: | +18      | +100/-13   |

Arcis-sur-Aube, #142

|    | Strength | Casualties |
|----|----------|------------|
| A: | +25      | +5/-5      |
| D: | +7/-18   | -20        |

Ligny, #143

|    | Strength | Casualties |
|----|----------|------------|
| A: | -3       | +14/-4     |
| D: | +12      | +4/-11     |

Quatre Bras, #144

|    | Strength | Casualties |
|----|----------|------------|
| A: | -10      | -9         |
| D: | +7       | +16        |

# DATA RELIABILITY ESTIMATES

Waterloo, #145

|    | Strength | Casualties |
|----|----------|------------|
| A: | +9       | +32        |
| D: | -9       | -7         |

The Thames, #146

|    | Strength | Casualties |
|----|----------|------------|
| A: | -6       | +5/-5      |
| D: | -26      | +5/-5      |

Chippewa, #147

|    | Strength | Casualties |
|----|----------|------------|
| A: | -14      | -31        |
| D: | +32      | -2         |

Lundy's Lane, #148

|    | Strength | Casualties |
|----|----------|------------|
| A: | +29      | +5/-5      |
| D: | -7       | +5/-5      |

New Orleans, #149

|    | Strength | Casualties |
|----|----------|------------|
| A: | +21      | -22        |
| D: | +9       | +5/-5      |

Boyaca, #150

|    | Strength | Casualties |
|----|----------|------------|
| A: | -33      | +10        |
| D: | -10      | -11        |

# DATA RELIABILITY ESTIMATES

Carabobo, #151

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +2  | +10        |
| D:       | -23 | +20        |

Bombona, #152

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +11 | -14        |
| D:       | -9  | +10        |

Pichincha, #153

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -20 | +1         |
| D:       | -16 | +0/-0      |

Junin, #154

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -55 | +3         |
| D:       | -35 | -46        |

Ayacucho, #155

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +7  | +124       |
| D:       | -16 | -2         |

San Jacinto, #156

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -19 | +3         |
| D:       | -25 | -70        |

# DATA RELIABILITY ESTIMATES

Palo Alto, #157

|    | Strength | Casualties |
|----|----------|------------|
| A: | +2       | +13        |
| D: | +10      | -25        |

Resca de la Palma, #158

|    | Strength | Casualties |
|----|----------|------------|
| A: | +35      | +1         |
| D: | -11      | +34        |

Buena Vista, #159

|    | Strength | Casualties |
|----|----------|------------|
| A: | +57      | +85/-25    |
| D: | +5/-5    | +0/-0      |

Cerro Gordo, #160

|    | Strength | Casualties |
|----|----------|------------|
| A: | +6       | -7         |
| D: | +8       | -1         |

Contreras, #161

|    | Strength | Casualties |
|----|----------|------------|
| A: | -11      | -3         |
| D: | +25      | -1         |

Churubusco, #162

|    | Strength | Casualties |
|----|----------|------------|
| A: | +6/-11   | +2         |
| D: | +71      | +130       |

# DATA RELIABILITY ESTIMATES

Molino del Rey, #163

|    | Strength | Casualties |
|----|----------|------------|
| A: | +11/-3   | +1/-1      |
| D: | -17      | -37        |

Chapultepec, #164

|    | Strength | Casualties |
|----|----------|------------|
| A: | +4/-3    | -1         |
| D: | -7       | -6         |

The Alma, #165

|    | Strength | Casualties |
|----|----------|------------|
| A: | -9       | +5         |
| D: | +5       | +10        |

Inkerman, #166

|    | Strength | Casualties |
|----|----------|------------|
| A: | -4       | -21        |
| D: | +4       | +7         |

Magenta, #167

|    | Strength | Casualties |
|----|----------|------------|
| A: | +3       | +2         |
| D: | -14      | -1         |

Solferino, #168

|    | Strength | Casualties |
|----|----------|------------|
| A: | -17      | +3         |
| D: | -8       | +1         |

# DATA RELIABILITY ESTIMATES

Sadowa (Koeniggraetz), #169

| Strength |    | Casualties |
|----------|----|------------|
| A:       | +2 | +9/-2      |
| D:       | -5 | +2/-10     |

Custoza II, #170

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -11 | +1         |
| D:       | -1  | -17        |

First Bull Run (First Manassas), #171

| Strength |        | Casualties |
|----------|--------|------------|
| A:       | +2/-19 | +15/-9     |
| D:       | -32    | -12        |

Wilson's Creek, #172

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -20 | +10/-10    |
| D:       | +14 | +8         |

Belmont, #173

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | -5      | -18        |
| D:       | +20/-20 | +40        |

Mill Springs, #174

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +25 | +10/-10    |
| D:       | -38 | -6         |



# DATA RELIABILITY ESTIMATES

## Fort Donelson, #175

|    | Strength | Casualties |
|----|----------|------------|
| A: | -29      | +10/-10    |
| D: | +10/-10  | +11        |

## Pea Ridge, #176

|    | Strength | Casualties |
|----|----------|------------|
| A: | -14      | -38        |
| D: | +14      | -6         |

## Kernstown, #177

|    | Strength | Casualties |
|----|----------|------------|
| A: | +40/-11  | -3         |
| D: | +29      | +10/-10    |

## Shiloh, #178

|    | Strength | Casualties |
|----|----------|------------|
| A: | -10      | +10/-10    |
| D: | -6       | +10/-10    |

## Front Royal, #179

|    | Strength | Casualties |
|----|----------|------------|
| A: | +6       | +43        |
| D: | -6       | +5/-5      |

## First Winchester, #180

|    | Strength | Casualties |
|----|----------|------------|
| A: | +6       | +10        |
| D: | +21      | -29        |

# DATA RELIABILITY ESTIMATES

## Cross Keys, #181

|    | Strength | Casualties |
|----|----------|------------|
| A: | +14      | +5/-5      |
| D: | +10      | +5/-5      |

## Port Republic, #182

|    | Strength | Casualties |
|----|----------|------------|
| A: | -13      | -10        |
| D: | +67/-17  | +10/-10    |

## Seven Pines (Fair Oaks), #183

|    | Strength | Casualties |
|----|----------|------------|
| A: | -7       | +5/-5      |
| D: | +8       | +5/-5      |

## Mechanicsville, #184

|    | Strength | Casualties |
|----|----------|------------|
| A: | -39      | +35        |
| D: | -36      | -31        |

## Gaines's Mill, #185

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +10/-10  | +10/-10    |

## Glendale-Frayser's Farm, #186

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +10/-10  | +10/-10    |

# DATA RELIABILITY ESTIMATES

## Malvern Hill, #187

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -10 | +10/-10    |
| D:       | -10 | +10/-10    |

## Cedar Mountain, #188

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +25 | +1         |
| D:       | +19 | +2         |

## Second Bull Run (Second Manassas), #189

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +10/-10 | -11        |
| D:       | +10/-10 | -3         |

## South Mountain, #190

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +10/-10 | +10/-10    |
| D:       | +10/-10 | +10/-10    |

## Antietam (Sharpsburg), #191

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | -16     | +10/-10    |
| D:       | +13/-13 | -18        |

## Corinth, #192

| Strength |       | Casualties |
|----------|-------|------------|
| A:       | -9    | +10/-10    |
| D:       | +9/-5 | +10/-10    |

# DATA RELIABILITY ESTIMATES

Perryville, #193

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -27 | +10/-10    |
| D:       | -6  | +10/-10    |

Fredericksburg, #194

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +10 | +10/-10    |
| D:       | -19 | +15        |

Murfreesboro (Stones River), #195

| Strength |    | Casualties |
|----------|----|------------|
| A:       | +9 | -13        |
| D:       | +5 | +3         |

Chancellorsville, #196

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +18/-14 | -3         |
| D:       | -6      | -3         |

Champion's Hill, #197

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +19/-32 | +10/-10    |
| D:       | -10     | +20/-10    |

Brandy Station, #198

| Strength |    | Casualties |
|----------|----|------------|
| A:       | -8 | +4/-4      |
| D:       | +3 | +5/-3      |

# DATA RELIABILITY ESTIMATES

Gettysburg, #199

| Strength |       | Casualties |
|----------|-------|------------|
| A:       | +3/-7 | -27        |
| D:       | +12   | +5/-5      |

Chickamauga, #200

| Strength |    | Casualties |
|----------|----|------------|
| A:       | +8 | -4         |
| D:       | -2 | +10/-10    |

Chattanooga, #201

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -8  | +10/-10    |
| D:       | +15 | +10/-10    |

The Wilderness, #202

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +10/-10 | +10/-10    |
| D:       | +10/-10 | +55        |

Spotsylvania, #203

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +10/-20 | -40        |
| D:       | +15/-15 | +50        |

New Market, #204

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +25/-10 | +10/-10    |
| D:       | +10/-10 | +10/-10    |

# DATA RELIABILITY ESTIMATES

## Cold Harbor, #205

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -10 | -36        |
| D:       | -10 | +33/-33    |

## Kenesaw Mountain, #206

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -13 | +22        |
| D:       | -2  | +81        |

## Peachtree Creek, #207

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +10/-10 | -11        |
| D:       | +10/-10 | +10/-10    |

## Atlanta, #208

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +10/-10 | +6         |
| D:       | +10/-10 | -2         |

## Petersburg, #209

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +10/-10 | +40        |
| D:       | +10/-10 | +20/-20    |

## Globe Tavern, #210

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +10/-10 | +10/-10    |
| D:       | +10/-10 | +20/-20    |

# DATA RELIABILITY ESTIMATES

## Opequon Creek (Third Winchester), #211

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | -29      | +17        |

## Cedar Creek, #212

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +10/-10  | +10/-10    |

## Franklin, #213

|    | Strength | Casualties |
|----|----------|------------|
| A: | +12      | +10/-10    |
| D: | +15      | +10/-10    |

## Nashville, #214

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +10/-10  | +11        |

## Bentonville, #215

|    | Strength | Casualties |
|----|----------|------------|
| A: | -20      | +26/-19    |
| D: | -20      | +10/-10    |

## Dinwiddie Court House & White Oak Road, #216

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +10/-10  | +30/-20    |

# DATA RELIABILITY ESTIMATES

## Five Forks, #217

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10      | +58        |
| D: | -10      | +10/-10    |

## Selma, #218

|    | Strength | Casualties |
|----|----------|------------|
| A: | -33      | -25        |
| D: | -29      | +25/-25    |

## Sayler's Creek, #219

|    | Strength | Casualties |
|----|----------|------------|
| A: | +33      | +10/-10    |
| D: | -25      | -14        |

## Weissenburg, #220

|    | Strength | Casualties |
|----|----------|------------|
| A: | +37      | -38        |
| D: | +17      | +10/-5     |

## Froeschwiller (Woerth), #221

|    | Strength | Casualties |
|----|----------|------------|
| A: | +52      | +5/-5      |
| D: | +32      | -16        |

## Spichern, #222

|    | Strength | Casualties |
|----|----------|------------|
| A: | +33      | +5/-5      |
| D: | +25      | +32        |



# DATA RELIABILITY ESTIMATES

Mars la Tour, #223

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +44 | +5/-5      |
| D:       | +17 | +21        |

Gravelotte-St. Privat, #224

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +50/-50 | +5/-5      |
| D:       | +10/-50 | +5/-5      |

Sedan, #225

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -17 | +5/-5      |
| D:       | -15 | +5/-5      |

Coulmiers, #226

| Strength |        | Casualties |
|----------|--------|------------|
| A:       | +17    | -33        |
| D:       | +18/-5 | -30        |

Orleans, #227

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +15/-15 | +5/-5      |
| D:       | +38/-45 | +5/-5      |

Le Mans, #228

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +24 | -15        |
| D:       | +36 | +10/-4     |

# DATA RELIABILITY ESTIMATES

Belfort, #229

|    | Strength | Casualties |
|----|----------|------------|
| A: | +23      | -50        |
| D: | +33      | +10/-18    |

Isandhlwana, #230

|    | Strength | Casualties |
|----|----------|------------|
| A: | -50      | +25/-25    |
| D: | +15      | +15        |

Ulundi, #231

|    | Strength | Casualties |
|----|----------|------------|
| A: | -25      | +25/-25    |
| D: | -6       | -21        |

Majuba Hill, #232

|    | Strength | Casualties |
|----|----------|------------|
| A: | -50      | +1/-1      |
| D: | +85      | -4         |

Tel el-Kebir, #233

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5       | +5/-5      |
| D: | +50      | +50        |

Omdurman, #234

|    | Strength | Casualties |
|----|----------|------------|
| A: | -27      | -19        |
| D: | +5/-5    | +5         |

# DATA RELIABILITY ESTIMATES

Adowa, #235

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -25 | +25/-25    |
| D:       | -5  | -7         |

Modder River, #236

| Strength |      | Casualties |
|----------|------|------------|
| A:       | +25  | +3         |
| D:       | +100 | -47        |

Magersfontein, #237

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -13 | +14        |
| D:       | -11 | +36        |

Colenso, #238

| Strength |        | Casualties |
|----------|--------|------------|
| A:       | +34    | +1         |
| D:       | +9/-27 | -40        |

Spion Kop, #239

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -25 | -32        |
| D:       | -25 | +34        |

Paardeberg, #240

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +33 | +8         |
| D:       | +25 | +43        |

# DATA RELIABILITY ESTIMATES

San Juan and El Caney, #241

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +10/-10 | +10/-10    |
| D:       | +7      | +10/-10    |

The Yalu, #242

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -29 | -21        |
| D:       | -44 | +81/-12    |

Telissu, #243

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +11 | -17        |
| D:       | -22 | +32/-8     |

Liaoyang, #244

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +63 | +37        |
| D:       | -12 | +52        |

The Sha-Ho, #245

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +19 | +30/-7     |
| D:       | +38 | +18/-7     |

Sandepu, #246

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +47     | +15/-23    |
| D:       | +15/-15 | +11        |

# DATA RELIABILITY ESTIMATES

Mukden, #247

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +59 | +15        |
| D:       | +20 | +30        |

Kumanovo, #248

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -10 | -40        |
| D:       | -36 | +50        |

Lule' Burgas, #249

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | -33     | +9         |
| D:       | +15/-15 | +15/-15    |

Prelip, #250

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -20 | -33        |
| D:       | +25 | +10/-10    |

Monastir, #251

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -17 | +10/-10    |
| D:       | -33 | -15        |

Adrianople, #252

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -25 | +2         |
| D:       | -20 | +15/-15    |

# DATA RELIABILITY ESTIMATES

Warsaw, #253

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | +25 | +20/-20    |
| D:       | -25 | -20        |

The Nieman, #254

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +20/-20 | +20/-20    |
| D:       | +20/-20 | +20        |

Guadalajara-Brihuega, #255

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +10/-10 | +10/-10    |
| D:       | +10/-10 | +10/-10    |

Changkufeng/Shachaofeng, #256

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +15/-15 | +15/-15    |
| D:       | +20/-20 | +20/-20    |

Hill 52/Shachaofeng, #257

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +25/-25 | +13/-13    |
| D:       | +15/-15 | +50/-50    |

Changkufeng/Hill 52, #258

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +20/-20 | +25/-25    |
| D:       | +15/-15 | -25        |

# DATA RELIABILITY ESTIMATES

## Nomonhan: Opening Engagement, #259

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +20/-20  | +60/-40    |

## Nomonhan: Soviet Counteroffensive, #260

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | -10        |
| D: | +15/-15  | +2/-6      |

## Suomussalmi, #261

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10      | +10/-10    |
| D: | +10/-10  | +33        |

## Alsace-Lorraine I, #262

|    | Strength | Casualties |
|----|----------|------------|
| A: | -10      | +30/-30    |
| D: | -10      | +30/-30    |

## Alsace-Lorraine II, #263

|    | Strength | Casualties |
|----|----------|------------|
| A: | +7/-8    | +30/-30    |
| D: | -17      | +30/-30    |

## The Ardennes, #264

|    | Strength | Casualties |
|----|----------|------------|
| A: | -10      | +30/-30    |
| D: | -10      | +30/-30    |

# DATA RELIABILITY ESTIMATES

The Sambre, #265

|    | Strength | Casualties |
|----|----------|------------|
| A: | -10      | +30/-30    |
| D: | +8/-10   | +30/-30    |

Mons, #266

|    | Strength | Casualties |
|----|----------|------------|
| A: | +23/-38  | +47        |
| D: | -29      | +5/-5      |

Le Cateau, #267

|    | Strength | Casualties |
|----|----------|------------|
| A: | -60      | +10/-10    |
| D: | +33      | +3         |

Guise, #268

|    | Strength | Casualties |
|----|----------|------------|
| A: | -10      | +30/-30    |
| D: | -20      | +30/-30    |

The Heights of Nancy, #269

|    | Strength | Casualties |
|----|----------|------------|
| A: | +25/-25  | +31        |
| D: | -27      | +10/-42    |

The Ourcq I, #270

|    | Strength | Casualties |
|----|----------|------------|
| A: | +37      | -29        |
| D: | -15      | -20        |



# DATA RELIABILITY ESTIMATES

The Ourcq II, #271

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +20/-20    |
| D: | +20/-20  | +20/-20    |

The Petit Morin, #272

|    | Strength | Casualties |
|----|----------|------------|
| A: | -14      | -31        |
| D: | +43      | +21        |

The Two Morins, #273

|    | Strength | Casualties |
|----|----------|------------|
| A: | +11/-44  | -32        |
| D: | +15/-15  | +15/-15    |

The Marshes of St. Gond, #274

|    | Strength | Casualties |
|----|----------|------------|
| A: | +14      | -13        |
| D: | -18      | -35        |

Vitry le Francois, #275

|    | Strength | Casualties |
|----|----------|------------|
| A: | +27      | +4         |
| D: | -15      | -11        |

The Gap of Revigny, #276

|    | Strength | Casualties |
|----|----------|------------|
| A: | +27      | +17        |
| D: | -16      | -10        |

# DATA RELIABILITY ESTIMATES

## The Aisne, #277

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +20/-20    |
| D: | +20/-20  | +20/-20    |

## Stalluponen, #278

|    | Strength | Casualties |
|----|----------|------------|
| A: | -20      | +92/-14    |
| D: | -50      | -40        |

## Gumbinnen, #279

|    | Strength | Casualties |
|----|----------|------------|
| A: | -20      | -15        |
| D: | -33      | -27        |

## Tannenberg, #280

|    | Strength | Casualties |
|----|----------|------------|
| A: | -18      | +10        |
| D: | +16      | +15        |

## Masurian Lakes, #281

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | -50        |
| D: | +15/-15  | -20        |

## Krasnik, #282

|    | Strength | Casualties |
|----|----------|------------|
| A: | -33      | +10/-25    |
| D: | -29      | +10/-25    |

# DATA RELIABILITY ESTIMATES

Komarov, #283

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -33 | +10/-25    |
| D:       | -27 | +10/-25    |

Gnila Lipa, #284

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -17 | +10/-25    |
| D:       | -17 | +10/-25    |

Rava Russka, #285

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -25 | +10/-25    |
| D:       | -25 | +10/-25    |

Lodz, #286

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +10/-10 | +10/-10    |
| D:       | +15/-15 | +15/-15    |

The Jadar, #287

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -25 | -31        |
| D:       | -25 | -11        |

The Kolubra, #288

| Strength |     | Casualties |
|----------|-----|------------|
| A:       | -20 | +15        |
| D:       | -20 | +15        |

# DATA RELIABILITY ESTIMATES

## Eastern Champagne, #289

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +10/-10  | +10/-10    |

## Neuve Chapelle, #290

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +5/-5      |
| D: | +15/-15  | +15/-15    |

## Ypres II, #291

|    | Strength | Casualties |
|----|----------|------------|
| A: | -15      | +10/-10    |
| D: | -15      | +10/-10    |

## Festubert, #292

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +5/-5      |
| D: | +20/-5   | +16        |

## Loos, #293

|    | Strength | Casualties |
|----|----------|------------|
| A: | -15      | +5-5       |
| D: | +20      | +10/-10    |

## The Winter Battle (Masuria), #294

|    | Strength | Casualties |
|----|----------|------------|
| A: | -50      | -70        |
| D: | -25      | -25        |

# DATA RELIABILITY ESTIMATES

## Gorlice-Tarnow (Opening Phase Only), #295

|    | Strength | Casualties |
|----|----------|------------|
| A: | -7       | -30        |
| D: | +37      | +23        |

## First Isonzo, #296

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +10/-10    |
| D: | +20/-20  | +5         |

## Second Isonzo, #297

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | -20        |
| D: | +20/-20  | -14        |

## Third Isonzo, #298

|    | Strength | Casualties |
|----|----------|------------|
| A: | -15      | +10/-10    |
| D: | -15      | +15        |

## Fourth Isonzo, #299

|    | Strength | Casualties |
|----|----------|------------|
| A: | -15      | +10/-10    |
| D: | -15      | +15        |

## First Dardanelles Landing, #300

|    | Strength | Casualties |
|----|----------|------------|
| A: | +13      | +56        |
| D: | +10      | +20        |

# DATA RELIABILITY ESTIMATES

## Suvla Bay, #301

|    | Strength | Casualties |
|----|----------|------------|
| A: | -10      | -15        |
| D: | -15      | +25        |

## Kut-el-Amara, #302

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

## Ctesiphon, #303

|    | Strength | Casualties |
|----|----------|------------|
| A: | -18      | +10/-10    |
| D: | -12      | +10/-10    |

## First Somme, #304

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +19/-8     |
| D: | -17      | +8         |

## Somme, Fourth Army Attack, #305

|    | Strength | Casualties |
|----|----------|------------|
| A: | -25      | +5/-5      |
| D: | -15      | +10        |

## Somme, Ovillers, #306

|    | Strength | Casualties |
|----|----------|------------|
| A: | -15      | +5/-5      |
| D: | -15      | +5/-5      |

# DATA RELIABILITY ESTIMATES

## Somme, Bazentin Ridge, #307

|    | Strength | Casualties |
|----|----------|------------|
| A: | -33      | +2/-2      |
| D: | +15      | +15/-15    |

## Somme, Flers-Courcelette, #308

|    | Strength | Casualties |
|----|----------|------------|
| A: | -20      | +20/-20    |
| D: | -20      | +20/-10    |

## Caucasus Winter Offensive, #309

|    | Strength | Casualties |
|----|----------|------------|
| A: | -22      | +20        |
| D: | -20      | +20        |

## Lake Narotch, #310

|    | Strength | Casualties |
|----|----------|------------|
| A: | -14      | -30        |
| D: | -50      | +10/-10    |

## 1916 Brusilov Offensive, #311

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-15   | +5/-15     |
| D: | +5/-15   | +5/-15     |

## Fifth Isonzo, #312

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +31        |
| D: | +20/-20  | +10/-10    |

# DATA RELIABILITY ESTIMATES

## Asiago, #313

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +15/-15    |
| D: | +20/-20  | +15/-15    |

## Trentino Counteroffensive, #314

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +15/-15    |
| D: | +20/-20  | +34/-15    |

## Sixth Isonzo (Gorizia), #315

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +15        |
| D: | +20/-20  | +15        |

## Arras, #316

|    | Strength | Casualties |
|----|----------|------------|
| A: | -15      | +5/-5      |
| D: | -10      | +10/-10    |

## Aisne II, #317

|    | Strength | Casualties |
|----|----------|------------|
| A: | -15      | +10        |
| D: | +25      | +25        |

## Messines, #318

|    | Strength | Casualties |
|----|----------|------------|
| A: | -10      | +47        |
| D: | -15      | -23        |



# DATA RELIABILITY ESTIMATES

Ypres III, #319

|    | Strength | Casualties |
|----|----------|------------|
| A: | -15      | -23        |
| D: | -10      | -26        |

Cambrai I, #320

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5       | +15        |
| D: | +10/-10  | +15        |

Cambrai II, #321

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10      | +15        |
| D: | -10      | +15        |

Tenth Isonzo, #322

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | -64        |
| D: | +20/-10  | -64        |

Eleventh Isonzo, #323

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +15/-15    |
| D: | +20/-20  | +15/-15    |

Caporetto (Twelfth Isonzo), #324

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +15/-15    |
| D: | +20/-20  | +15        |

# DATA RELIABILITY ESTIMATES

## Crossing of the Tigris, #325

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

## Gaza I, #326

|    | Strength | Casualties |
|----|----------|------------|
| A: | -25      | -5         |
| D: | -25      | -5         |

## Gaza II, #327

|    | Strength | Casualties |
|----|----------|------------|
| A: | -25      | +5         |
| D: | -25      | +10/-10    |

## Gaza III, #328

|    | Strength | Casualties |
|----|----------|------------|
| A: | +22      | +5/-5      |
| D: | +15      | +15        |

## Junction Station, #329

|    | Strength | Casualties |
|----|----------|------------|
| A: | -25      | +15/-15    |
| D: | +15/-15  | +15/-15    |

## Second Somme, Phase I (Somme-Peronne), #330

|    | Strength | Casualties |
|----|----------|------------|
| A: | -25      | +20        |
| D: | -38      | +20/-20    |

# DATA RELIABILITY ESTIMATES

## Second Somme, Phase II (Somme-Peronne), #331

|    | Strength | Casualties |
|----|----------|------------|
| A: | -14      | +20        |
| D: | -20      | +20/-20    |

## Lys, #332

|    | Strength | Casualties |
|----|----------|------------|
| A: | -10      | +10/-20    |
| D: | -10      | +10/-20    |

## Yvonne and Odette Positions, #333

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +10/-10  | +10/-10    |

## Chemin des Dames, #334

|    | Strength | Casualties |
|----|----------|------------|
| A: | -10      | -15        |
| D: | +10/-10  | -15        |

## Cantigny, #335

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | -15        |

## Belleau Wood, #336

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

Hill 142, #337

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

West Wood I, #338

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Bouresches I, #339

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Hill 192, #340

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

West Wood II, #341

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

North Wood I, The Hunting Lodge, #342

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

## Bouresches II, #343

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +10/-10  | +10/-10    |

## North Wood II, #344

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

## North Wood III, #345

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

## North Wood IV (Final Assault), #346

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

## Vaux, #347

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

## La Roche Wood East, #348

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

La Roche Wood West, #349

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Noyon-Montdidier, #350

|    | Strength | Casualties |
|----|----------|------------|
| A: | +9       | +10/-10    |
| D: | +15/-15  | +10/-10    |

Champagne-Marne, #351

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | -15      | +10/-10    |

Aisne-Marne I, #352

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Missy aux Bois Ravine, #353

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15-15     |

Brevil, #354

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

St. Amand, #355

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Beaurepaire Form, #356

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Cravancon Ferme-Chaudun, #357

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Chaudun, #358

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Aisne-Marne II, #359

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Berzy le Sec, #360

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

## Buzancy Ridge, #361

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

## Picardy, 1918, Phase I, #362

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

## Picardy, 1918, Phase II, #363

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

## St. Mihiel, #364

|    | Strength | Casualties |
|----|----------|------------|
| A: | +25/-20  | +10/-10    |
| D: | +25      | +20        |

## Lahayville-Bois de Lamarche, #365

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

## Meuse-Argonne, Phase I, #366

|    | Strength | Casualties |
|----|----------|------------|
| A: | +25/-25  | +20/-20    |
| D: | +25/-25  | +20/-20    |



# DATA RELIABILITY ESTIMATES

Blanc Mont I, #367

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Meddeah Farm, #368

|    | Strength | Casualties |
|----|----------|------------|
| A: | + 10/-10 | +10/-10    |
| D: | +15/-15  | +15/-15    |

Essen Hook, #369

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Blanc Mont Ridge, #370

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | -25        |
| D: | -15      | -15        |

Sommepy Wood, #371

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +25        |
| D: | +15      | +15        |

Blanc Mont II, #372

|    | Strength | Casualties |
|----|----------|------------|
| A: | -20      | -12        |
| D: | -20      | +25/-25    |

# DATA RELIABILITY ESTIMATES

## Meuse-Argonne, Phase II, #373

|    | Strength | Casualties |
|----|----------|------------|
| A: | +25/-25  | +20/-20    |
| D: | +25/-25  | +20/-20    |

## Exermont-Montrefagne, #374

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

## Mayache Ravine, #375

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

## La Neuville le Comte Ferme, #376

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

## Ferme des Granges-Fleville, #377

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

## Hill 212, #378

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

Bois de Boyon-Montrefagne, #379

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Hill 272, #380

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Meuse-Argonne, Phase III, #381

|    | Strength | Casualties |
|----|----------|------------|
| A: | +25/-25  | +20/-20    |
| D: | +25/-25  | +20/-20    |

Remilly-Aillicourt, #382

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Hill 252 - Pont Maugis, #383

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

The Piave, #384

|    | Strength | Casualties |
|----|----------|------------|
| A: | -38      | -24        |
| D: | +10/-20  | +22/-10    |

# DATA RELIABILITY ESTIMATES

Megiddo, #385

|    | Strength | Casualties |
|----|----------|------------|
| A: | -15      | -10        |
| D: | +25/-25  | +10        |

Alam Halfa, #386

|    | Strength | Casualties |
|----|----------|------------|
| A: | -20      | +10/-10    |
| D: | -20      | +10/-10    |

El Alamein II, #387

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +10/-10  | +10/-10    |

Operation "Lightfoot," #388

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +10/-10  | +10/-10    |

Alamein Bridgehead Expansion, #389

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +10/-10  | +10/-10    |

Operation "Supercharge," #390

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +10/-10  | +10/-10    |

# DATA RELIABILITY ESTIMATES

## Chouigui Pass, #391

|    | Strength | Casualties |
|----|----------|------------|
| A: | -15      | +50/-50    |
| D: | -15      | +50/-50    |

## El Guettar, #392

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-15  | +11/-11    |
| D: | +5/-5    | +5/-5      |

## Sedjenane-Bizerte, #393

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +10/-15  | +25/-25    |

## Amphitheater, #394

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

## Port of Salerno, #395

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

## Sele-Calore Corridor, #396

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

Battipaglia I, #397

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +10/-10  | +10/-10    |

Vietri I, #398

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +10/-10  | +10/-10    |

Tobacco Factory, #399

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +10/-10  | +10/-10    |

Battipaglia II, #400

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Eboli, #401

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Vietri II, #402

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +10/-10  | +10/-10    |

# DATA RELIABILITY ESTIMATES

Grazzanise, #403

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Caiazzo, #404

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Capua, #405

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Castel Volturno, #406

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Monte Acero, #407

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Triflisco, #408

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

Dragoni, #409

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Canal I, #410

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Monte Grande (Volturno), #411

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Canal II, #412

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Francolise, #413

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Santa Maria Oliveto, #414

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +10/-10  | +10/-10    |



# DATA RELIABILITY ESTIMATES

Monte Camino I, #415

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Monte Lungo, #416

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Pozzilli, #417

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Monte Camino II, #418

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +10/-10  | +10/-10    |

Monte Rotondo, #419

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Calabritto, #420

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

Monte Camino III, #421

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Monte Maggiore, #422

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Aprila I, #423

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

The Factory, #424

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +10/-10  | +10/-10    |

Campoleone, #425

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Campoleone Counterattack, #426

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +10/-10  | +10/-10    |

# DATA RELIABILITY ESTIMATES

Carroceto, #427

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +10/-10  | +10/-10    |

Moletta River Defense, #428

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +5/-5    | +5/-5      |

Aprilia II, #429

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +10/-10  | +10/-10    |

Factory Counterattack, #430

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Bowling Alley, #431

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +5/-5    | +5/-5      |

Moletta River II, #432

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +10/-10  | +10/-10    |

# DATA RELIABILITY ESTIMATES

Fioccia, #433

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +5/-5    | +5/-5      |

Santa Maria Infante, #434

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

San Martino, #435

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Castellonorato, #436

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Spigno, #437

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Formia, #438

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

Monte Grande (Rome), #439

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Itri-Fondi, #440

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Terracina, #441

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Moletta Offensive, #442

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Anzio-Albano Road, #443

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

Anzio Breakout, #444

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

Cisterna, #445

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +5/-5   | +5/-5      |
| D:       | +15/-15 | +15/-15    |

Sezze, #446

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +5/-5   | +5/-5      |
| D:       | +15/-15 | +15/-15    |

Velletri, #447

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +5/-5   | +5/-5      |
| D:       | +15/-15 | +15/-15    |

Campoleone Station, #448

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +5/-5   | +5/-5      |
| D:       | +15/-15 | +15/-15    |

Villa Crocetta, #449

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +5/-5   | +5/-5      |
| D:       | +15/-15 | +15/-15    |

Ardea, #450

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +10/-10 | +10/-10    |
| D:       | +15/-15 | +15/-15    |

# DATA RELIABILITY ESTIMATES

Fosso di Campoleone, #451

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Lanuvio, #452

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Lariano, #453

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Via Anziate, #454

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Valmontone, #455

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Tarto-Tiber, #456

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

Il Gioglio Pass, #457

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

St Lo, #458

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | -7       | +15/-15    |

Operation "Goodwood," #459

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +15/-15  | +36        |

Operation "Cobra," #460

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +20/-20  | +20/-20    |

Mortain, #461

|    | Strength | Casualties |
|----|----------|------------|
| A: | +25/-25  | +25/-25    |
| D: | +10/-10  | +5/-5      |

Chartres, #462

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |



# DATA RELIABILITY ESTIMATES

Melun, #463

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Seine River, #464

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Moselle-Metz, #465

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Metz, #466

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Arracourt, #467

|    | Strength | Casualties |
|----|----------|------------|
| A: | +25/-25  | +10/-10    |
| D: | +10/-10  | +5/-5      |

Westwall, #468

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

Schmidt, #469

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +5/-5      |
| D: | -25      | +15/-15    |

Seille-Nied, #470

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Foret de Chateau-Salins, #471

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Morhange, #472

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Morhange-Faulquemont, #473

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Bourgaltroff, #474

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

Sarre-St. Avoird, #475

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Baerendorf I, #476

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Baerendorf II, #477

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Burbach-Durstel, #478

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Durstel-Faerbersviller, #479

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Sarre-Union, #480

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

Sarre-Singling, #481

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Singling-Bining, #482

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +5/-5      |
| D: | +15/-15  | +15/-15    |

Sauer River, #483

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +5/-5    | +5/-5      |

St. Vith, #484

|    | Strength | Casualties |
|----|----------|------------|
| A: | +25/-25  | +25/-25    |
| D: | +10/-10  | +10/-10    |

Bastogne, #485

|    | Strength | Casualties |
|----|----------|------------|
| A: | +25/-25  | +25/-25    |
| D: | +10/-10  | +10/-10    |

Sedan-Meuse River, #486

|    | Strength | Casualties |
|----|----------|------------|
| A: | +25/-25  | +25/-25    |
| D: | +25/-25  | +25/-25    |

# DATA RELIABILITY ESTIMATES

Jitra, #487

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-25  | +25/-25    |
| D: | +10/-25  | +25/-25    |

Rovno, #488

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +20/-20    |
| D: | +20/-20  | +25/-25    |

The Defense of Moscow, #489

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +20/-20    |
| D: | +20/-20  | +25/-25    |

Soviet Counteroffensive at Moscow, #490

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |

The Pogoreloye Gorodishche Offensive, #491

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +20/-20    |
| D: | +15/-15  | +20/-20    |

Leningrad (Operation "Spark"), #492

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |

# DATA RELIABILITY ESTIMATES

## The Oboyan-Kursk Axis, Phase I, #493

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +20/-20    |
| D: | +20/-20  | +25/-25    |

## Operation "Citadel," Southern Sector, #494

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +20/-20    |
| D: | +20/-20  | +25/-25    |

## The Oboyan-Kursk Axis, Phase II, #495

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +20/-20    |
| D: | +20/-20  | +25/-25    |

## The Oboyan-Kursk Axis, Phase III, #496

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +20/-20    |
| D: | +20/-20  | +25/-25    |

## Prokhorovka, #497

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |

## Kursk Counteroffensive (Southern Sector), #498

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |

# DATA RELIABILITY ESTIMATES

Belgorad, #499

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |

Melitopol, #500

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |

Korsun-Shevchenkivskiy, #501

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |

Nikopol Bridgehead, #502

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +20/-20    |
| D: | +15/-15  | -23        |

Sevastopol, #503

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |

The Berezina River, Byelorussian Offensive, #504

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |

# DATA RELIABILITY ESTIMATES

## The Lvov-Sandomierz Offensive, #505

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +20/-20    |
| D: | +15/-15  | +15/-15    |

## Brody, Phase I, #506

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +20/-20    |
| D: | +15/-15  | +15/-15    |

## Brody, Phase II, #507

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +20/-20    |
| D: | +15/-15  | +15/-15    |

## Assault Crossing of the Vistula River, Phase I, #508

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |

## Vistula River Operation, Pulawy, Phase II, #509

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |

## Yassy-Kishinev, #510

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |



# DATA RELIABILITY ESTIMATES

Vistula-Oder, #511

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |

East Prussia, #512

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |

Ciechanow, Phase I, #513

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |

Ciechanow, Phase II, #514

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +15/-15  | +20/-20    |

Seelow Heights, #515

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +20/-20    |
| D: | +15/-15  | +15/-15    |

Mutankiang, #516

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +25/-25    |
| D: | +20/-20  | +20/-20    |

# DATA RELIABILITY ESTIMATES

## Tarawa-Betio, #517

|    | Strength | Casualties |
|----|----------|------------|
| A: | +5/-5    | +1/-1      |
| D: | +5/-5    | +5/-5      |

## Iwo Jima, Into the Main Defenses, #518

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +20/-20  | +20/-20    |

## Iwo Jima, Suribachi, #519

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +20/-20  | +20/-20    |

## Iwo Jima, Final Phase, #520

|    | Strength | Casualties |
|----|----------|------------|
| A: | +10/-10  | +10/-10    |
| D: | +20/-20  | +20/-20    |

## Advance from the Beach, #521

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

## Advance through the Outposts, #522

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

# DATA RELIABILITY ESTIMATES

Tomb Hill-Ouki, #523

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

Skyline Ridge-Rocky Crags, #524

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

Kochi Ridge-Onaga I, #525

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

Kochi Ridge-Onaga II, #526

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

Kochi Ridge-Onaga III, #527

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

Japanese Counterattack, 4-5 May, #528

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +20/-20    |
| D: | -5       | +5/-5      |

# DATA RELIABILITY ESTIMATES

## Kochi Ridge IV, #529

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

## Shuri Envelopment, Phase I, #530

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

## Japanese Counterattack, 24/25 May, #531

|    | Strength | Casualties |
|----|----------|------------|
| A: | +20/-20  | +20/-20    |
| D: | -5       | +5/-5      |

## Shuri Envelopment, Phase II, #532

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

## Shuri Envelopment, Phase III, #533

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

## Hill 95-I, #534

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

# DATA RELIABILITY ESTIMATES

Hill 95-II, #535

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

Yaeju-Dake, #536

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

Hills 153 and 115, #537

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

Advance from the Beachhead, #538

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

Advance to the Shuri Line Outposts, #539

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

Kakazu and Tombstone Ridges, #540

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

# DATA RELIABILITY ESTIMATES

## Nishibaru Ridge-Tanabaru Escarpment, #541

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

## Maeda Escarpment, #542

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

## Attack on the Shuri Line's Eastern Flank I, #543

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

## Attack on the Shuri Line's Eastern Flank II, #544

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

## Attack on the Shuri Line's Eastern Flank III, #545

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

## Advance to the Yuza-Dake/Yaeju-Dake Escarpment, #546

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

# DATA RELIABILITY ESTIMATES

## Initial Attack on the Yuza-Dake/Yaeju-Dake Escarpment, #547

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

## Capture of the Yuza-Dake/Yaeju-Dake Escarpment, #548

|    | Strength | Casualties |
|----|----------|------------|
| A: | -5       | +5/-5      |
| D: | +20/-20  | +20/-20    |

## Jenin, #549

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

## Jerusalem, #550

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

## Kabatiya, #551

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

## Tilfit-Zababida, #552

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

Nablus, #553

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +15/-15 | +15/-15    |
| D:       | +15/-15 | +15/-15    |

Rafah, #554

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +15/-15 | +15/-15    |
| D:       | +15/-15 | +15/-15    |

Bir Lahfan, #555

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +15/-15 | +15/-15    |
| D:       | +15/-15 | +15/-15    |

Abu Ageila-Um Katef, #556

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +15/-15 | +15/-15    |
| D:       | +15/-15 | +15/-15    |

El Arish, #557

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +15/-15 | +15/-15    |
| D:       | +15/-15 | +15/-15    |

Jebel Libni, #558

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +15/-15 | +15/-15    |
| D:       | +15/-15 | +15/-15    |



# DATA RELIABILITY ESTIMATES

Gaza Strip, #559

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Bir Hassna-Bir Thamada, #560

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Mitla Pass, #561

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Bir Hamma-Bir Gifgafa, #562

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Nakhl, #563

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Bir Gifgafa, #564

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

Tel Fahar-Banias, #565

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Rawiyeeh, #566

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Zaoura-Kala, #567

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Kerama, #568

|    | Strength | Casualties |
|----|----------|------------|
| A: | -50      | -30        |
| D: | +15/-15  | +15/-15    |

Suez Canal Assault-North, #569

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Suez Canal Assault-South, #570

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

## Second Army Buildup, #571

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

## Third Army Buildup, #572

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

## Kantara-Firdan, #573

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

## Egyptian Offensive-North, #574

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

## Egyptian Offensive-South, #575

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

## Deversoir (Chinese Farm I), #576

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

Deversoir (Chinese Farm II), #577

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Deversoir West, #578

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Ismailia, #579

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Jebel Geneifa, #580

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Shallufa I, #581

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Adabiya, #582

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

# DATA RELIABILITY ESTIMATES

Shallufa II, #583

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Suez, #584

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Kuneitra, #585

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Ahmadiyah, #586

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Rafid, #587

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Yehudiah-El Al, #588

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

# DATA REABILITY ESTIMATES

Nafekh, #589

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Tel Faris, #590

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Hushniyah, #591

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Mount Hermonit, #592

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Mount Hermon I, #593

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Tel Shams, #594

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Tel Shaar, #595

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Tel el Hara, #596

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Kfar Shams-Tel Antar, #597

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Naba, #598

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Arab Counteroffensive, #599

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Mount Hermon II, #600

|    | Strength | Casualties |
|----|----------|------------|
| A: | +15/-15  | +15/-15    |
| D: | +15/-15  | +15/-15    |

Mount Hermon III, #601

| Strength |         | Casualties |
|----------|---------|------------|
| A:       | +15/-15 | +15/-15    |
| D:       | +15/-15 | +15/-15    |



Task 8: Development of Strength and Attrition Histories for  
Selected Battles

The following list contains engagements for which accurate strength and attrition (S/A) histories may be available for both participants in the engagement. The estimated number of man-days required to complete a strength and attrition history for each engagement is also provided.

| <u>Engagement Name and Number</u>             | <u>Est'd Number of Man-days<br/>Required for S/A History</u> |
|---|--|
| Freiburg, #15                                 | 3  |
| Preston, #26                                  | 3  |
| Austerlitz, #117                              | 2  |
| Waterloo, #145                                | 2  |
| The Alma, #165                                | 2  |
| Inkerman, #166                                | 2  |
| First Bull Run (First Manassas), #171         | 2  |
| Chancellorsville, #196                        | 2  |
| Trenton, #85                                  | 1  |
| Princeton, #86                                | 1  |
| Gettysburg, #199                              | 1  |
| Bowling Alley, #431 *                         | 1  |
| Via Anziate, #454 *                           | 1  |
| Valmontone, #455 *                            | 1  |
| The Pogoreloye Gorodishche Offensive, #491 ** | 1  |
| The Lvov-Sandomierz Offensive, #505 **        | 1  |
| Seelow Heights, #515 **                       | 1  |

\* These engagements are documented only by HERO reports. If the primary sources for data are requested for documentation, two man-days would be required to complete strength and attrition histories for them.

\*\* These engagements can be documented only by HERO reports. The original sources for data are in Russian.

# STRENGTH AND ATTRITION HISTORY

Engagement: Westwall, #468

Attacker: US XIX Corps (elms)

Defender: Ger LXXXI Corps (elms)

## Strengths, Accretions, and Deletions

| <u>Date &amp; Time</u> | <u>ATTACKER</u> |                   |                          | <u>DEFENDER</u> |                   |                          |
|------------------------|-----------------|-------------------|--------------------------|-----------------|-------------------|--------------------------|
|                        | <u>Strength</u> | <u>Casualties</u> | <u>Reinf./<br/>Repl.</u> | <u>Strength</u> | <u>Casualties</u> | <u>Reinf./<br/>Repl.</u> |
| 194410021100           | 25,345          | 205               | 7,128                    | 10,844          | 238               | 5,793                    |
| 194410030600           | 32,268          | 202               | 0                        | 16,399          | 381               | 406                      |
| 194410040500           | 32,066          | 450               | 0                        | 16,424          | 357               | 7,780                    |
| 194410050600           | 31,616          | 158               | 4,878                    | 23,847          | 660               | 2,311                    |
| 194410060710           | 36,336          | 272               | 0                        | 25,498          | 716               | 0                        |
| 194410070900           | 36,064          | 190               | 0                        | 24,782          | 1,264             | 0                        |
| 194410071830           | 35,874          |                   |                          | 23,518          |                   |                          |

The date-time group used in this strength and attrition history is organized exactly like those used for Task 4, i.e., by year, month, day, and hour. On this table, an entry for strength data represents the strength of a side at the date and time shown on the same line as the entry. For example, the attacker's strength at 11:00 AM on 2 October 1944 is 25,345. Entries for casualties and reinforcements/replacements are for the periods delimited by the dates and times shown on the lines immediately preceding and following the entries. In this engagement for example, the attacker incurred 205 casualties and received 7,128 reinforcements between 11:00 AM on 2 October and 6:00 AM on 3 October.

The following sources were used for strength and casualty data and for information on the times of the periods of combat activity.

PRIMARY SOURCES:

Official records of US units. These are on deposit at the Federal Record Center, Suitland, Maryland.

Record Group [RG] 407, 99/12/1.2. G-1 Journal and File, 2d Armored Division, Oct 1944.

RG 407, 330-2.1. G-2 Periodic Reports, 30th Division, Sep-Oct 1944.

RG 407, 330-3.0. G-3 After Battle Report, 30th Division, Oct 1944.

RG 407, ARBN-743-3.2. S-3 Journal History, 743d Tank Battalion, 1-31 Oct 1944.

RG 407, TDBN-803-1.2 to 1.13. S-1 Journal File, 803d Tank Destroyer Battalion, 1 Oct-30 Nov 1944.

RG-407, TDBN 803-3.2. S-3 Journal, 803d Tank Destroyer Battalion, Oct 1944.

RG 407. Headquarters US XIX Corps, Office of the Commanding General. "Breaching the Siegfried Line," a General Staff analysis of the US XIX Corps' attack and penetration through the Siegfried Line in October 1944, dated 12 Jan 1945.

Official Records of German units. These are on microfilm at the US National Archives, Washington, D.C.

T-314, Roll 1597, Frames 0095-0096. Status Report, 12th Volks Grenadier Division, 1 Nov 1944.

T-314, Roll 1591, Frames 0533-0652. Daily War Diaries, LXXXI Army Corps, 2-7 Oct 1944.

T-314, Roll 1597, Frames 0027-0030. Weekly Divisional Evaluation Reports from LXXXI Army Corps to Seventh Army, 1 Oct 1944 and 7 Oct 1944.

T-314, Roll 1597, Frames 0581-0582. LXXXI Army Corps Strength Reports as of 1 Nov 1944.

T-314, Roll 1597, Frames 0088-0091. Status Report, 246th Volks Grenadier Division, 1 Nov 1944.

T-314, Roll 1597, Frames 0097-0098. Status Report, 341st Assault Gun Brigade, 1 Nov 1944.

#### Secondary Sources:

Hewitt, Robert L. Workhorse of the Western Front: The Story of the 30th Infantry Division. Washington, D.C., 1946.

MacDonald, Charles B. The Siegfried Line Campaign. US Army in World War II: The European Theater of Operations. Washington, D.C., 1963.

#### Task 9: Assistance in Eliminating Unwanted Redundancies

HERO has reviewed CAA's efforts to reduce the level of redundancy in the data base. Our belief is that the redundancy has not been identified sufficiently to support reduction of the number of factors based on factor analysis.

The purpose of the data in Table 6 is quite different from the purpose of the data in Tables 2 and 4. The judgments on the factors in Tables 2 and 4 indicate the degree to which a particular factor was present in a battle. The judgments on the factors in Table 6 indicate the degree to which a particular factor influenced the outcome of the battle. While the names of some of these factors are the same in the original data base report, the judgments reflected in the values assigned to the factors are different. For example, the terms SURPA and SURPAA (the former identified in the original data base as "Surprise" on Table 2, OPERATIONAL AND ENVIRONMENTAL VARIABLES, and the latter as "Surprise" on Table 6, FACTORS AFFECTING OUTCOME) have been cited by CAA as an ~~obvious~~ <sup>potential</sup> example of redundancy. Yet, the two factors mean quite different things, as follows:

SURPA is a judgment as to the presence of surprise in the battle and the degree to which that surprise was present.

SURPAA, on the other hand, is a judgment as to the effect on the outcome of the battle of the surprise that was present.

It might be possible to have surprise occurring in a battle but either not affecting the outcome of the battle, or else affecting the outcome to a substantially different degree than

was judged to be present. An attacker could achieve surprise to a high degree, but with little or no effect on the outcome of the battle. In that battle, SURPA would have a high value for the attacker, but SURPAA would have a low value for the attacker. The notation for the factors given in the original data base tends to cause some of this confusion. Of course, SURPAA is meaningless when SURPA is not present, so there is some correlation between these values and ipso facto some redundancy.

If reduction of the number of redundant factors is desired, there are several possibilities. However, it would be inappropriate, for example, to aggregate weather, season, and terrain into a single "environmental" variable. Although there is some superficial validity to this combination because these factors are related to a degree through physical processes, such an aggregation may not reduce the number of redundant items of information. However, this aggregation would have nothing to do with the adjudged effect of each separate environmental factor on battle outcome. In one battle, terrain might be highly influential; in another battle the overcast weather preventing air support might be crucial. These important judgments would not be possible with a single factor for environment. Generally, we believe that reduction in redundancy could create problems of increased complexity and difficult interpretation.

HERO does not believe that statistical methods alone should be used to identify unwanted redundancies among the data base factors. The method that should be used is a combination of statistical analysis and combat engagement analysis to determine which factors could be combined without reducing the information

available from the data base. That is, the analysis should be realistic in its treatment of the way in which combat operates.